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Money Also Needed

Plant Site Sought to 'Harvest' Trash

By Tom Huth
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An engineering firm and an industrial trade association say they would like to build an experimental plant in the Washington area to harvest one of the nation's greatest natural resources—garbage and rubbish.

They have the technology, and are looking for money and a site.

The process is waste recycling, the breaking down of sardine cans, lemon peels, bubble-bath bottles and yesterday's newspaper into basic components, which are then reused rather than discarded in a manner often harmful to the environment.

It is not a new idea, but has never been put into use on a large-enough scale to diminish the country's ever-mounting heaps of refuse.

One of the few recycling projects in operation is now by the U.S. Bureau of Mines in Edmonston in Prince George's County. This model project uses waste from area incinerators, and a new plant being built a mile away will try processing raw refuse on a limited scale within the year.

Now, the Aluminum Association, which represents aluminum producers, and the Rust Engineering Co. have announced a proposal to build a model recycling plant on a large and practical scale. The plant would use a variety of equipment to define and refine all methods of recycling and put these on a computer so that other municipalities could determine their specific needs and build their own plants accordingly. The proposal to develop the plant was unveiled last week in New York.

The planners are looking for a community plant here — with "maximum visibility" to the federal government — that produces about 500 tons of refuse a day. This they say, would be a community of about 200,000 residents.

That description fits Arlington, although the plans are tentative and the companies involved say that they have not settled on a site. Frederick Doe, Arlington County's utilities director said he had not heard of the proposal but "would greet them with open arms."

One government source said that the $15.8-million plant might be built about 20 miles south of Washington.

The proposal has been submitted to the National Center for Solid Waste Disposal, a Washington-based group formed late last year by bottlers and other packagers looking for new methods of waste disposal. Money might be sought from the federal goverment under the Resource Recovery Act of 1970.

Environmentalists have looked to recycling as a system that would not foul the air and land, and would also conserve resources by reusing materials that have already been taken from nature. Recycling could be less expensive than landfill — dumping under controlled conditions and covering — or incineration, and possibly even profit-making.

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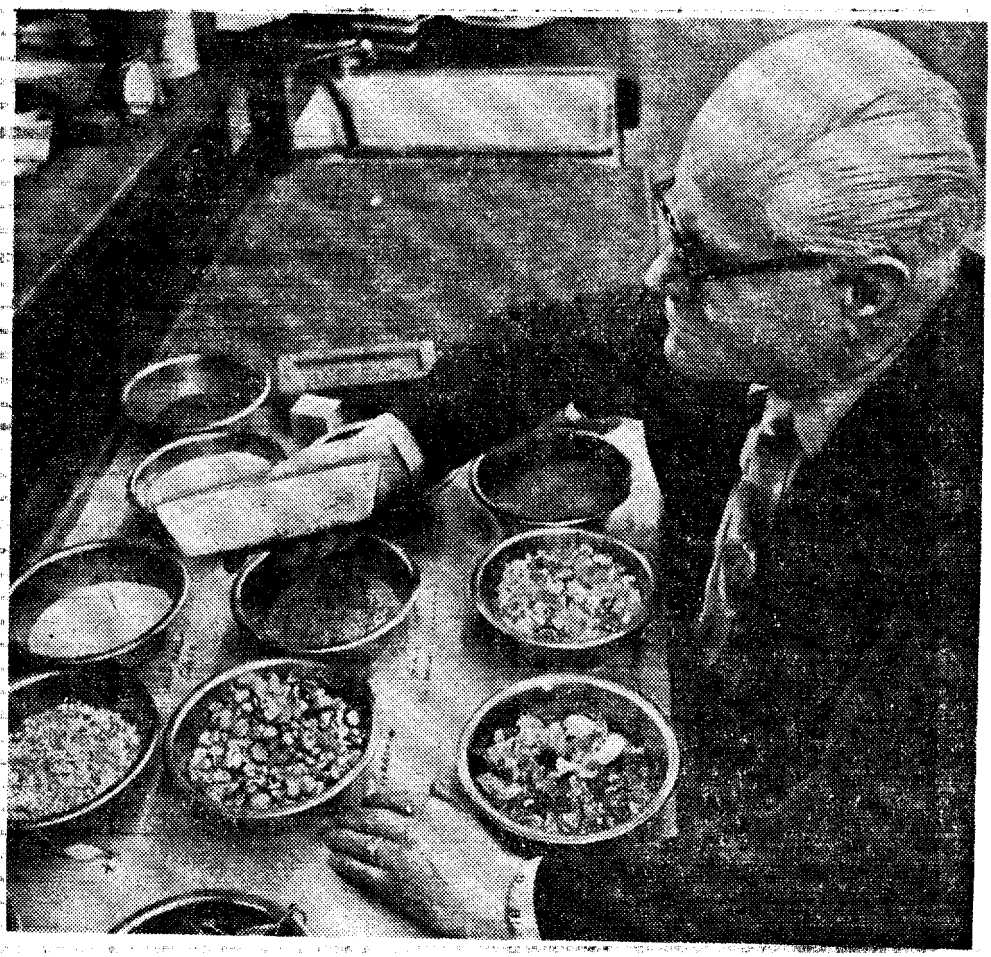

By Margaret Thomas—The Washington Post

Max Spendlove examines ingot of salvaged metal. The bowls contain recycled waste

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WASTE, From B1

The community selected for the demonstration project would pay $5 to $8 a ton to dump the garbage and rubbish into the plant's bins. This contrasts with the $17-a-ton average cost for landfill and incinerator operations in the Washington area, according to figures supplied by the Aluminum Association.

Separation Devices

The refuse would move from the bin into a shredder, which would grind it into small bits. Then a series of devices would gradually separate the junk into components—paper, the various types of plastics, clear and colored glass, ferrous and nonferrous metals, rubber, wood.

These devices range from simple processes that operate on the principles of gravity and flotation to magnetic sorters and jiggling screens that separate materials by size.

If there were no need to save the paper or other combustible products, the refuse would move straight from the shredder into either a water-jacketed incinerator or a machine called a pyrolyzer.

The incinerator is lined with water pipes that absorb heat and that produce steam, which could then be sold to electric companies or more likely be used to heat the recycling plant itself or turn its generators.

The city of Harrisburg, Pa., is building such an incinerator and plans to sell $3 worth of steam for every ton of waste. The ferrous metals remaining will be sold to the Bethlehem Steel Co. or to scrap-metal dealers.

Because heat is absorbed by the pipes, more heat can be allowed to build up in a water-wall incinerator, providing more complete combustion and leaving less ash. The ash left in the Washington area plant would be itself recycled.

Marketing Question

The other process, pyrolysis, is simply heating in the absence of oxygen. Organic products—wood, plastic, rubber, paper, food—de-

compose into a variety of organic compounds that often cound be sold and reused. The liquids and gases released could be reprocessed as fuel oil and methane gas.

After incineration or pyrolysis, the same sorting machines would be used to separate the nocombustible materials.

One of the big questions of recycling is marketing. Since the system has never been tried on a large scale, no one is sure how salable the end products would be. Aluminum, steel and glass producers have pledged to buy back recycled materials.

The Bureau of Mines lab in Edmonston has on display bricks and building blocks made from recycled glass and ingots of reprocessed zinc and aluminum. Other products have been discovered, and even a little silver and gold turns up at the end of the bureau's rattling assembly line.

"There's a fantasic value in what could be recovered," said Max Spendlove, research director.

Spendlove, who calls waste "our only growing natural resource," calls recycling "the only logical answer. We can't destroy these materials, they're too valuable. Land, trees and minerals are running out; the environment is being polluted."

Spendlove's lab grinds out better garbage at a rate of 5 tons an hour. He says that the cost is $3.52 a ton, and that the recycled materials have a potential value of $12 a ton.

The Aluminum Association says that its model city of 200,000 would spend $286,000 a year on recycling rather than $910,000 on landfill or incineration.

The Rust Engineering Co., which does design and construction for industry, wants to try the Washington venture because it has long been involved in pollution control and is seeking both recognition and potential for future business.

The Aluminum Association is interested because recycled aluminum sells for $200 a ton, much more than other metals. Aluminum now makes up only 3/10ths of 1 per cent of municipal waste, and the association hopes that more people will use its product if they can get big money for it at tomorrow's computerized garbage dumps.